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| 09/631,501 | 08/03/2000 | Timo Herranen | 460-009567-US(PAR) | 9806 |

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|---|---|
| CAPUTO, LISA M | |

| ART UNIT | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Applicati n No. 09/631,501 | Applicant(s) HERRANEN, TIMO |
|---|---|---|
| | Examiner Lisa M Caputo | Art Unit 2876 |

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 August 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4,5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because there are numbers of ranges used to designate a single part of the figure, in addition to using the individual numbers of the range as reference numbers for other parts.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The abstract of the disclosure is objected to because the term "rod-like" is used in line 5, which renders the object it is describing, the antenna, vague and indefinite. The additional "like" clause renders the phrases and descriptions indefinite because "like" is a relative quantity that is not explicitly described.

Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities:

The specification is replete with exemplification of objects, methods, and materials of use, for example on page 7, line 34, the specification recites "unit made e.g. by casting." Applicant should be aware of the use of specific examples and their implications.

The specification contains indefinite phrases such as "spring-like" on page 4, line 14 of the specification. The additional "like" clause renders the phrases and descriptions indefinite because "like" is a relative quantity that is not explicitly described.

The specification should not reference claims as on page 1, lines 4-5 of the specification which says "The present invention relates to an expansion card as set forth in the preamble of claim 1" since the material in the claims is not definite in its nature, for example, claims may be canceled or renumbered and then the specification would have no basis since it is dependent on a non-existent entity.

The description of the preferred embodiments and drawings is not properly descriptive in its disclosure of the drawings (e.g. different reference numbers are described throughout the specification and are not referenced to their correct figure numbers). Applicant should provide a clear, concise, logical description of each drawing and how it relates to others. Also, different, specific numbers should be used as reference numbers for each part. The specification discloses ranges of numbers as a single reference number, and then uses numbers within the range for other parts. Please refrain from using number ranges as a reference number.

Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The specification is objected to under 112 because it does not distinctly disclose the "rod-like" objects of the invention.

***Claim Objections***

5. Claims 1-16 are objected to because of the following informalities:

Regarding claims 1-16: Please refrain from using reference numbers in the claims. If the reference numbers should change (i.e. be deleted or renumbered) the

claims would be rendered invalid since they would be dependent on a non-existent entity.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 10, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 10, and 11, the phrase "rod-like", analogous to, "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hollander et al. (U.S. Patent No. 6,172,645, from hereinafter "Hollander").

Regarding claims 1-2 and 10-11, Hollander teaches an integrated extendable PCMCIA antenna which has all of the elements and means as recited in claim 1. For example, Hollander teaches a PCMCIA modem card 10 which is connectable a host computer 12 and utilizes an integrated, extendable antenna for wireless transmission and reception, is provided with a circuit board 14. The circuit board 14 is provided with a cavity 16 interior extending to a first end 18 of the circuit board 14. The modem card 10 is further provided with communications circuitry 20 which is formed on the circuit board 14. The modem card 10 is further provided with an antenna structure 22 which is in electrical communication with the communications circuitry 20. The antenna structure 22 is translatable from a first position wherein the antenna structure 22 is substantially disposed within the cavity 16 and a second position wherein the antenna structure 22 is extended from the cavity 16 (see Figures 1-8, col 5 lines 44-49).

Referring now to FIGS. 2-4, illustrated is the modem card 10 of the present invention shown with the antenna structure 22 retracted in the first position. Whereas, referring now to FIG. 5-7, illustrated is the modem card 10 shown with the antenna structure 22 extended to the second position (see Figures 2-7, col 5, lines 60-64). The antenna structure disclosed is analogous to the "rod-like structure" as recited in claim 1 of the instant application, since the "rod-like structure" renders the claim broad and indefinite. Regarding claims 10 and 11, the method and apparatus as shown by Hollander in view of Casarez are usable and necessary together.

Regarding claim 3, Hollander teaches that the dimensions of the modem card 10 when the antenna structure 22 is in the first position is contemplated to be no greater

than the three PCMCIA standard types, namely, Type I, Type II, and Type III, each having a length of 85.6 mm, a width of 54.0 mm, and respective thicknesses of 3.3, 5.0, and 10.5 mm (see col 6, lines 12-18).

Regarding claim 4, Hollander teaches that the antenna structure 22 is designed to slidably engage the cavity 16 of the modem card 10. Such engagement facilitates extension of the antenna structure 22 from the host computer 12 only when necessary. It is contemplated that the modem card 10 could be used in a host computer 12 such that the entire modem card 10 is disposed within the structure of the host computer 12. It is contemplated that when the antenna structure 22 is in operation, it is slid out of the opening 18 of the cavity 16 of the circuit board 14 and extended to the second position, external to the host computer 12, as illustrated in FIG. 8. When the antenna structure 22 is not in use, it can be retracted into the cavity 16 into the first position, thereby leaving substantially little or no portion of the modem card 10 external to the host computer 12 (see Figure 8, col 5 line 65 to col 6 line 12).

Regarding claims 5 and 12, Hollander teaches that the modem card 10 is provided with an extension spring 30 which is disposable in the cavity 16 and is in mechanical communication with the slide portion 26 and the circuit board 14. The extension spring 30 is formed to urge the antenna 24 out of the cavity 16 when the antenna structure 22 is in the first position. Similarly, modem card 10 is also provided with a retraction spring 32 which is disposable in the cavity 16 and is in mechanical communication with the slide portion 26 and the circuit board 14. The retraction spring 32 is formed to urge the antenna 24 into the cavity 16 when the antenna structure 22 is

in the second position. It is contemplated that the extension spring 30 and the retraction spring 32 are the same extension/retraction spring. In such a case, it is contemplated that the natural length of such a spring is less than the extended length of the spring when the antenna structure 22 is in the second position and is therefore in tension. Further, such a spring would be in a compressive state when the antenna structure 22 is retracted into the cavity 16, in the first position (see Figure 5, col 6, lines 37-55).

Regarding claim 6, Hollander teaches that the modem card 10 is provided with a retraction lock device 40 which is disposed between the slide portion 26 and the circuit board 14. The retraction lock device 40 may be chosen from those well known to those of ordinary skill in the art. The retraction lock device 40 is formed to releasably lock the antenna structure 22 into position when the antenna structure 22 is in the first position. The retraction lock device 40 is provided with a first retraction connector 42 attached to the slide portion 26 and a second retraction connector 44 attached to and disposed within the cavity 16 and formed to releasably engage the first retraction connector 42 (see Figures 2 and 6, col 7, lines 11-22).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 7-9 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollander in view of Casarez et al. (U.S. Patent No. 5,913,174, from hereinafter "Casarez"). The teachings of Hollander have been discussed above.

Hollander fails to teach the use of levers in the antenna locking mechanism.

Regarding claims 7-9 and 13-16, Casarez teaches an antenna for wireless LAN PCMCIA card radios. Casarez teaches a latch mechanism assembly 4 that is used to releasably connect the removable planar antenna 1 to the card radio 2 (FIG. 1). The connection provided by the latch mechanism 4 is strong enough to allow the planar antenna 1 to be used as a handle for extracting the card radio 2 from its host computer. Release levers 6 projecting through openings in the outer housing 33 on the underneath side 71 of the planar antenna 1, when depressed, release the latch mechanism so that the planar antenna 1 can be removed from the card radio 2. In one embodiment, latch mechanism assembly 4 is comprised of a pair of latch assemblies 73 (FIGS. 1, 4-11 and 27). Each latch assembly 73 is integrally formed with mounting member 35. Each latch assembly has a stationary alignment member 75,76 and a pivoting lever 77,78. As the planar antenna 1 is brought into proximity of the distal end 5 of the card radio 2, stationary alignment member 75 is inserted through one of the receiving slots 9 in front face 13 of the card radio and seated in slot 25 in card frame 19. Likewise, stationary alignment member 76 is inserted through the other receiving slot 9 in front face 13 of the card radio and seated in slot 27 in card frame 19. Correspondingly, pivoting lever

77 is inserted through one of the receiving slots 11 in front face 13 of the card radio and latched into slot 31 in card frame 19 and pivoting lever 78 is inserted through the other receiving slot 11 of the card radio and latched into slot 29 in card frame 19. As pivoting levers 77,78 are pushed into corresponding slots 31,29, their corresponding latch ends 79 are displaced upward and their corresponding release ends 81 are displaced downward as camming surface 91 passes over the leading edge of each of the slots in the card frame. After the latch ends have been fully inserted into their corresponding slots, the pivoting levers 77,78 resiliently resume their initial orientation and retaining surfaces 93 hold the planar antenna 1 to the card radio 2 as they latch over edges 95 in slots 31,29, respectively. Protrusions 97 can be provided on the front wall 87 of the mounting member 35 to take out any "slack" that might exist between the retaining surfaces 93 and the inner surface of the card frame to which they contact.

As can best be seen in FIGS. 10 and 11, each pivoting lever 77,78 is pivotally connected to the mounting member 35 at a location closer to the latch end 79 of the lever having a hook thereon than the release end 81 of each lever. Each lever 77,78 pivots about a fulcrum 85 created in the mounting member 35 by grooves 83 formed through front wall 87 and bottom wall 89 of the mounting member 35. Each lever 77,78 allows a user to spread latch ends 79 away from the stationary alignment members 75,76 of the latch assemblies 73 and release the planar antenna 1 from the card radio by depressing the release levers 6. When the release levers 6 are depressed, latch ends 79 are displaced and retaining surfaces 93 are raised above edges 95 of the card frame 19, then the antenna 1 can be withdrawn from the card radio (see Figures 1, 4-

11, 27, col 5 line 55 to col 6 line 42). Regarding claim 8, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a triangular part to aid in the lever locking mechanism because the triangular is a sturdy geometric shape and will function so in its purpose of improving the lock and latch mechanism. Regarding claims 15 and 16, the method and apparatus as shown by Hollander in view of Casarez are usable and necessary together.

In view of the teachings of Casarez, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a lever to the system as disclosed by Hollander because a lever is a simplistic mechanical tool that functions well without technologically advanced methods, hence saving repair time in the future. A lever is favorable to use because it is a time efficient, easy way to access the antenna which is hidden within the card. Since it is favorable to have optimal access to the antenna for constant communication, the lever is an obvious choice because of its mechanical simplicity and ease of use.

## ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ***Lisa M. Caputo*** whose telephone number is **(703) 308-8505**. The examiner can normally be reached between the hours of 8:30AM to 5:00PM Monday thru Friday.

The fax phone number for this Group is (703)308-7722, (703)308-7724, or (703)308-7382.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**lisa.caputo@uspto.gov**].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly*

*set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

LMC
January 7, 2002

KARL D. FRECH
PRIMARY EXAMINER